DOCUMENT RESUME

ED 136 973 RC 009 745

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TITLE Health Education Needs: A Survey of Rural Adults in Juniata County, Pennsylvania, 1975. An Interim Report. Rural Health Staff Papers - Paper Number 4.
INSTITUTION Pennsylvania State Univ., University Park. Dept. of Agricultural Economics and Rural Sociology.
PUB DATE 75
NOTE 20p.; Related documents include RC 009 745-751

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Adults; Age; *Attitudes; Beliefs; Body Weight; Diseases; *Educational Needs; *Health; Health Services; Identification; Medical Services; Physical Health; *Prevention; Preventive Medicine; *Rural Farm Residents
IDENTIFIERS Cancer; Heart Disease; *Pennsylvania (Juniata County)

ABSTRACT

In June 1975, 62 men and 64 women living on commercial farms in Juniata County, Pennsylvania were interviewed regarding their behaviors, beliefs, and attitudes related to preventing cancer and coronary heart disease. Respondents represented about 22% of all adults living on commercial farms in the county. A commercial farm was defined as one that either sold $10,000 or more produce per year or the operator worked more than half time on the farm. During a face-to-face interview setting, each respondent was asked 137 questions pertaining to: the seriousness and susceptibility of the disease, early detection, their knowledge about the disease, high blood pressure, overweight, and medical services. Each person rated eight selected diseases as to their seriousness and susceptibility. Findings included: cancer was perceived to be the most serious of all eight illnesses with heart disease ranking second; 1/3 of the respondents perceived themselves as either likely or very likely to have heart disease; 30% believed themselves likely to have cancer; all but 5 of the respondents strongly agreed that many types of cancer detected in the early stages could be cured; and 99% of the respondents felt that high blood pressure could be reduced and were aware of 1 or more ways in which this could be accomplished. (NQ)

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HEALTH EDUCATION NEEDS
A SURVEY OF RURAL ADULTS IN JUNIATA COUNTY
PENNSYLVANIA, 1975
AN INTERIM REPORT

By

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Paper Number 4

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RC004745

Acknowledgements

This research was administered by the Department of Agricultural Economics and Rural Sociology at The Pennsylvania State University with supporting funds from the College of Agriculture's Agricultural Experiment Station. Staff of the Cooperative Extension Service in Juniata County graciously assisted in the identification of commercial farms as did members of the Extension Service Executive Committee. Many other Juniata County residents, here unnamed, helped in locating specific farms. And, most importantly, one hundred and twenty-six men and women residing on Juniata County's farms donated their time during a busy agricultural season to be interviewed.

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Introduction

Americans spend a great deal of money as individuals each year in efforts to keep healthy. In 1975 this amount is estimated to be 118.5 billion dollars (Abelson, 1976:619). Our magazines and newspapers frequently publish articles about illnesses and their treatment or prevention. The federal government's budget for health research in 1972 was 1.8 billion (Cooper, 1973:7).

Even though health in general is usually viewed as important, all health problems do not have equal importance over time. Through scientific discoveries and technological advances many causes of illness and death have been substantially reduced. One of the most dramatic instances of this in recent times is the use of vaccine for paralytic poliomyelitus prevention. The 1958 peak of 6,031 cases in the United States may be compared with only 40 cases reported a decade later (Langmuir, 1959; Hopkins, 1969). Similarly, the occurrence or seriousness of many other illnesses of an acute nature have been reduced.

Increasing attention is being given to illnesses of a chronic character such as cancer and coronary heart disease. These diseases now rank among the two most frequent causes of death or mortality in the general population of Pennsylvania. (Natality and Mortality Statistics, 1973:v-vi). Further, using arteriosclerosis and hypertensive diseases as a means of estimating the economic costs of heart disease, a 1972 task force report estimates the direct annual cost of these illnesses at $4.3 billion (National Institutes of Health, 138).

For this study, these two most frequent causes of mortality are emphasized. Behaviors, beliefs, and attitudes related to preventing rather than treating these illnesses form the basis for this report.

Source of the Information

In June, 1975 a probability sample of 62 men and 64 women living on commercial farms in Juniata County, Pennsylvania were interviewed. They represented about 22 percent of all adults living on commercial farms in this county. (1)

During a face-to-face interview setting, each respondent was asked 137 questions. The interviewers recorded their responses which were later summarized using Penn State's computer facilities. (2)

Results

Seriousness and Susceptibility

Each person rated eight selected diseases regarding their seriousness and susceptibility. Seriousness was defined in terms of the respondents' personal situation. The individuals' judgement of susceptibility was made on the basis of their own experience, knowledge, and personal observations. Cancer was perceived to be the most serious of all eight illnesses with heart disease ranking second (Table 1). The contrast between these two leading causes of mortality (rows 1 and 2) and headaches and colds (rows 7 and 8) suggests that individuals' judgements of seriousness were reliable.

Further, the high percentage of respondents judging cancer and heart disease as serious or extremely serious (93 and 91 percent respectively) means that educational efforts may be directed at other dimensions of their prevention. People already believe these are serious; now, what should they do about them?

One's motivation to adopt recommended health practices

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(1) A commercial farm is defined as one that either sells $10,000 or more produce per year or the operator works more than one-half of his/her time on the farm. A small number of special cases that did not meet these criteria were included because of other characteristics reported by key informants in the county. Ninety percent of the total number of persons contacted agreed to be interviewed.

(2) The Statistical Programs for Social Sciences system (SPSS, version 6) was used (Nye, 1974).

Table 1. Rating of Seriousness of Selected Diseases 1975 Juniata County Preventive Health Educational Needs Inventory (N=126)

Disease*	Seriousness Rating					
	Extremely Serious	Serious	Depends	Not Too Serious	Not At All Serious	Total
	(Read across for 100 percent)					
Cancer	61	32	7	0	0	100
Heart Disease	48	43	7	2	0	100
Glaucoma	22	64	9	5	0	100
Diabetes	12	67	14	7	0	100
Emphysema	12	67	10	11	0	100
Stomach Ulcers	10	59	16	15	0	100
Headaches	3	17	39	36	5	100
Common Cold	0	11	19	56	14	100

*With the exception of cancer, not answering were 2, 24, 3, 16, 4, 4, and 1 person respectively by disease.

Table 2. Rating of the Susceptibility to Selected Diseases 1975 Juniata County Preventive Health Educational Needs Inventory (N=126)

Disease	Susceptibility Rating					
	Very Likely	Likely	Depends	Unlikely	Very Unlikely	Total
	(Read across for 100 percent)					
Common Cold	27	38	13	15	7	100
Headaches	18	28	14	23	17	100
Heart Disease	10	22	32	32	4	100
Cancer	3	24	30	36	7	100
Diabetes	6	20	17	40	17	100
Stomach Ulcers	4	15	16	48	17	100
Emphysema	0	5	12	56	27	100
Glaucoma	0	6	11	61	22	100

Not answering were 1, 2, 25, 40, 19, 17, 21, and 47 persons respectively by disease.

is not based solely on perceptions of seriousness. Persons may ask,"But, what are my chances of getting sick with this disease?" The data in Table 2 show that one-third of the respondents perceive themselves as either likely or very likely to have heart disease. A slightly smaller percentage, 30, believe themselves likely to have cancer. (3) The threat of one of these serious diseases is, thus, sufficiently high to suggest that a sizeable minority of the population studied may be ready to adopt recommended practices to prevent these diseases if they have not already done so.

Early Detection and Knowledge About Cancer

Research on rates of occurrence of cancer and subsequent mortality has shown that "more people die of cancer which could have been cured or prevented than of cancer for which a cure has yet to be found (American Cancer Society,4). Thus, it is important to know how useful persons feel early detection is in cancer treatment. Seventy percent of those responding strongly agreed that many types of cancer detected in the early stages can be cured (Table 3). Only five persons out of 126 disagreed.

In contrast to the importance of early detection, however, were individuals' knowledge of the warning signals of cancer as suggested by the American Cancer Society (Table 4A). On the basis of immediate recall, two persons out of five could name either one or none of the seven signs. On one hand, educators may be encouraged by the high agreement over the value of early detection. On the other hand, current knowledge among this population seems sufficiently low to suggest a continuing need for programs to acquaint persons with the warning signals.

Of specific interest may be symptoms associated with high rates of occurrence and cure. The estimated number of new cases of cancer per year for the breast and uterus sites are 40 percent of all cases. And, five-year cancer survival rates for these sites are 84 and 82 percent respectively (American Cancer Society, 8). While the data in Table 4B show that the warning signals associated with these sites are known most commonly, the percentages are still less than 50.

Given that cancer is the leading cause of death among women 30-54 (American Cancer Society,6), this study also asked the 64 women about a pap test. (4) In contrast to a

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(3) This perceived rate may be compared with the national rate of actual occurrence of 25 percent (American Cancer Society, 3).

Table 3. Opinion Rating About Statement: "Many Types of Cancer Detected in the Early Stages Can be Cured." 1975 Juniata County Preventive Health Educational Needs Inventory (N=126)

Opinion	(Percentage)
Strongly Agree	70
Agree a Little	14
Depends	12
Disagree a Little	2
Do Not Know	2
Total	100

Table 4A. Rating on Number of Cancer Signals Recalled 1975 Juniata County Preventive Health Educational Needs Inventory (N=126)

Number of Cancer Signals Recalled Correctly	(Percentage)
None	31
1	9
2	22
3	20
4	14
5	3
6	1
7	0
Total	100

Table 4B. Respondents' Knowledge of Seven Warning Signals of Cancer by Individual Signals 1975 Juniata County Preventive Health Educational Needs Inventory (N=126)

Signal	Percent Recalling Warning Signal		
	Correct	Do Not Know	Total
Thickening or lump in breast or elsewhere	48	52	100
Unusual bleeding or discharge	37	63	100
Nagging cough or hoarseness	34	66	100
A sore that does not heal	29	71	100
Obvious change in wart or mole	26	74	100
Change in bowel or bladder habits	14	86	100
Indigestion or difficulty in swallowing	3	97	100

Table 5A. Participation in Selected Preventive Health Practices During the Past 12 Months, Percentages 1975 Juniata County Preventive Health Educational Needs Inventory (N=126)

Preventive Health Practice	Percentage		
	Yes	No	Total
Chest X-Ray	14	86	100
Dental Check-up[1]	63	37	100
Electrocardiogram (EKG)	5	95	100
Eyes Examined	39	61	100
Blood Test	31	69	100
Urine Test	35	65	100
Pap Test[2]	42	58	100

[1]Excludes 33 persons reporting dentures.

[2]Women only, N=64.

Table 5B. Reasons for Non-Participation in Selected Preventive Health Practices During the Past 12 Months, Percentages 1975 Juniata County Preventive Health Educational Needs Inventory

The respondents who replied "no" for a practice in Table 5A were also asked the most important reason for not doing it (barrier to use). For each activity the percent choosing a barrier are shown in the column, read down for 100 percent.

Barriers to Having the Preventive Work Done In Past 12 Months	Chest X-Ray	Dental Check-Up	EKG	Eye Exam	Blood Test	Urine Test	Pap Test
I didn't get around to it...	34	55	8	29	9	9	43
It never entered my mind...	29	6	29	5	21	20	16
It was not needed...	24	24	55	62	61	6	38
Service was not available or too far away...	6	0	1	1	1	0	0
It was not convenient...	6	3	3	0	5	3	0
No way to get there...	1	0	1	1	1	1	3
Could not afford it...	0	6	1	0	0	0	0
Afraid of what would have to be done...	0	3	1	1	1	1	0
All other reasons...	0	3	1	1	1	0	0
Total	100 (N=105)	100 (N=33)	100 (N=120)	100 (N=76)	100 (N=86)	100 (N=81)	100 (N=37)

national sample of women aged 17 and over, 61 percent of whom had a pap test in the year prior to being interviewed (Vital Statistics, 1975), only 42 percent of the women in this population reported having a pap test in the past year (Table 5A). Those women not having a pap test, when asked why they had not done so, responded most frequently by saying, "I didn't get around to it", "It never entered my mind", or "It was not needed" (Table 5B).

While a few of these persons may not have actually needed a pap smear because of medically sound reasons, surely 97 percent of this category could not be excluded from need for that reason.(5)

It is notable that reasons related to access such as availability, cost and convenience were not cited as reasons for not having a pap test. Small percentages occur for other preventive health practices in these categories (Table 5B).

The situation may, therefore, be better defined as a problem in education rather than community service access. The educator's task is formidable. It has been demonstrated that for selected situations approximately 10 percent of health behavior is related to health knowledge (Dovell, 1969). Regardless of the fact that cancer is perceived to be serious and early detection is seen as effective, a majority of women in this study population did not place the pap test as a health maintenance behavior high enough among their personal priorities to go and have a pap smear made. The educational programs may, therefore, have to emphasize motivation as much or more than knowledge.

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(4) Pap test here refers to the papanicolaou test for cervical cancer.

(5) While some may believe post-menopausal women are not at risk due to uterine or cervical cancers, 1973 data show these cancers rank 4th and 5th respectively as causes of death for women in age categories 55-74 and 75 and over (American Cancer Society,13).

Heart Disease and High Blood Pressure

Heart disease is the leading cause of death in the United States and Pennsylvania. (6) It is not surprising to find, therefore, among farm men and women interviewed for this study, a high level of concern about this disease. One-third of these persons felt they were likely to have heart disease. Its seriousness as an illness is reflected in that 91 percent saw it as serious or very serious.

Associated with the frequency of occurrence of heart disease are what are called risk factors such as high blood pressure, overweight and lack of regular physical exercise. Among a national sample of white adults aged 18 to 74 years the prevalence rate for significantly high blood pressure was reported to be (Roberts, 1975:19):

Sex	Age	Rate Per 100 Persons
Men	18-44	21
	45-59	45
	60-74	39
Women	18-44	11
	45-59	29
	60-74	36

Respondents living on farms in this county reported rates of 7 and 8 per 100 for males and females respectively (Table 8). In addition, those persons reporting normal blood pressure were asked about having their blood pressure checked (Table 7). While 98 percent reported having their blood pressure checked at some time in the past, a lower percentage, 76, reported doing so in the past 18 months. Persons in the more susceptible age categories (45 and over) do not have significantly higher rates of checks than do those in the 18-44 category.

Seventy-nine percent of the respondents reported having their blood pressure checked while visiting a doctor's office. Since 74 percent of all persons interviewed had visited a physician in the past year for either acute or preventive health reasons, it does not seem reasonable to try to increase the blood pressure checking rate by

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(6) While the heart disease mortality rate in Pennsylvania in 1973 was 440 per 100,000 mid-year population, the cancer (malignant neoplasms) mortality rate for the same year was 192. By comparison, the mortality rates for cerebrovascular disease and accidents were 105 and 42 respectively. (Natality and Mortality Statistics, 1973:6) For further comparison see Jurkat (1974).

Table 6. Interest in Attending Future Clinics
1975 Juniata County Preventive Health
Educational Needs Inventory (N=119)

Interested	(Percentage)
Yes	56
No	44
Total	100

Number of persons not answering was 7.

Table 7. Year of Most Recent Blood Pressure Check
For Persons Reporting Normal Blood Pressure
1975 Juniata County Preventive Health
Educational Needs Inventory (N=111)*

Year	(Percentage)
1975	45
1974	31
1973	7
1972 & before	17
Total	100

*Excludes 15 cases reporting high blood pressure or not able to recall.

Table 8. Respondents' Self-Reported Blood Pressure
1975 Juniata County Preventive Health
Educational Needs Inventory (N=124)

	(Percentage)
I do have high blood pressure	7
I do not have high blood pressure	93
Total	100

Not answering were 2 persons.

Table 9. Location at Which Blood Pressure Was Checked
1975 Juniata County Preventive Health
Educational Needs Inventory (N=121)

Location	Percentage
Individual Check-Up or Physical Examination	46
While Being Treated for An Illness or Injury	33
Screening Program	8
Other	13
Total	100

Not answering were 5 persons.

Table 10. Dietary Practices Followed
1975 Juniata County Preventive Health
Educational Needs Inventory (N=126)

	Never or Occasionally	Depends	Usually or Always	Total
	(Read across for 100 percent)			
Careful Eater (1)	36	19	45	100
Regulate Diet (2)	35	10	55	100

(1) "I am careful about what I eat."
(2) "I regulate my diet to keep healthy."

Table 11. Difficulty of Regulating Diet, Getting Physical Exercise and Taking Medicine*
1975 Juniata County Preventive Health
Educational Needs Inventory (N=126)

	Very Easy or Easy	Average	Difficult or Very Difficult	Total
		(Read across for 100 percent)		
Diet	38	37	25	100
Exercise	88	10	2	100
Medicine	67	21	12	100

*"How difficult would it be for you to do each of these:
(a) regulate your diet
(b) get regular physical exercise
(c) take medicine on a regular basis?"

encouraging a more uniform application of this practice at such times.

The potential for acceptance of treatment of high blood pressure may be high once it is diagnosed. Nearly all persons interviewed (99 percent) felt that high blood pressure can be reduced and were aware of one or more ways in which this could be accomplished. One may speculate, nevertheless, that the actual treatment regimen involving daily medication may involve considerable problems. Instituting a practice to the level of a habit clearly depends on more than knowing that the medication, once taken, has the desired effect.

Heart Disease and Overweight

While this study did not include physiological measures of overweight or obesity, it did inquire into practices and feelings about diet and weight control. Approximately one-third of the farm men and women reported never or only occasionally consciously observing dietary rules (Table 10). When the answers for men and women were examined separately, significant differences were found. As health educators and nutritionists might have predicted, only 25 percent of the women do not observe dietary rules while fully 46 percent of the men reported non-observance.

In addition, respondents evaluated the degree of difficulty they had in regulating their diet (Table 11). Only one out of four persons felt that dietary regulation was difficult (28 percent for men and 21 percent for women). While no statistical data are available to verify the generalization, interviewers observed that men frequently said it was easy to regulate their diet because they just ate what their wives put in front of them.

Further, only six percent of those interviewed said they would be bothered by having others know they were trying to control their weight.

The results of a program for detecting health problems among adults living in rural areas of Pennsylvania show that obesity is the most important problem among persons screened. (Pa. Dept. Agric.:6) The facts obtained by the present study suggest two conclusions. First, if the incidence of obesity among these farm men and women is at all similar to the population in the health problems screening program, there surely is an excessive degree of risk of heart disease being borne by the respondents. Second, while a sizeable minority of respondents may already be following recommended dietary practices to attain or maintain desirable weight levels, a significant majority of men appear to feel their diet is either not of concern to them or it is controlled by their spouse.

Table 12A. Rating on Attitudes Toward Allied Medical Personnel
1975 Juniata County Preventive Health
Educational Needs Inventory (N=126)

	Registered Nurses Can Treat Some Diseases (1)	Would Go To A Registered Nurse (2)	Would Accept Help From A Medical Aide (3)
		(Read down for 100 percent)	
Always or Usually	34	19	48
Depends	26	52	35
Occasionally or Never	40	29	17
Total	100	100	100
Number Not Answering	3	2	0

(1) "Registered nurses or other doctor's assistants could treat some of my sicknesses."
(2) "I would go to a registered nurse for medical help if it were possible."
(3) "I would accept medical help from a health aide working under the direct supervision of a doctor."

Table 12B. Perception of Availability of Medical Services
1975 Juniata County Preventive Health
Educational Needs Inventory (N=126)

	Doctor's Help Available (1)	Medical Treatment Available (2)
	(Read down for 100 percent)	
Agree Very Much	66	55
Agree a Little	18	28
Depends	8	8
Disagree a Little	6	6
Disagree Very Much	2	3
Total	100	100
Number Not Answering	1	0

(1) "I can get a doctor's help when I really need it."
(2) "It is easy to get medical treatment when I need it."

Perhaps the relationship between heart disease and obesity is not as well known or understood as that between high blood pressure and heart disease. Even though one can demonstrate that food selection by the wife is heavily contingent on the preferences of the husband, many men may believe they do not influence the kinds and amounts of foods served.

Medical Services

Although availability of medical services was not central to the question assessing the preventive health education needs of the rural farm population in Juniata County, the topic is of sufficiently broad interest to be studied and discussed. As may be seen in Table 12B, 84 percent of those responding felt that they could get a doctor's help when they really needed it. Similarly, 83 percent agreed that it is easy to get medical treatment when they need it.

On a slightly different issue, respondents assessed their probable use of allied health personnel (Table 12A). Perhaps of greatest interest in this era of the mid-level practitioner (medical associate, physician's assistant, nurse practitioner) is the fact that 83 percent of those interviewed indicated a willingness to consider treatment by these persons. It may be relevant to note here that one such person has been working in Juniata County since 1974.

Abelson, Philip H.
1976 "Cost-Effective Health Care," Science, 192(4240):619 (May 14).

American Cancer Society
1976 Cancer Facts and Figures (New York).

Cooper, Barbara S. and Nancy L. Worthington
1973 "National Health Expenditures, 1929-1972," Social Security Bulletin 36(1):3-19 (January).

Dowell, Linus J.
1969 "The Relationship Between Knowledge and Practice," The Journal of Educational Research, 62(5):201-205.

Hopkins, C.C., et al.
1969 "Surveillance of Paralytic Poliomyelitus in the United States," Journal of the American Medical Association, 210:694-700, (October 27).

Jurkat, Ernest H. and others
1974 Comprehensive Investment Plan for Pennsylvania: Interim Report, Technical Working Memorandum No. 9- Health, Harrisburg, PA: Office of State Planning and Development.

Langmuir, A.D.
1959 "Progress in Conquest of Paralytic Poliomyelitus," Journal of the American Medical Association, 171:271-273, (September 19).

Natality and Mortality Statistics, Annual Report
1973 Pennsylvania Department of Health, Harrisburg.

National Institutes of Health, National Heart and Lung Institute Task Force on Arteriosclerosis
1972 Arteriosclerosis, Volume II, DHEW Publication No. (NIH)72-219, Washington, D.C.: U.S. Government Printing Office.

Nie, N.H., et al.
1975 Statistical Package for the Social Sciences, (New York: McGraw-Hill).

Pennsylvania Department of Agriculture
n.d. A Synopsis Report of Preventive Health Services in a Rural Area. Harrisburg, PA: Office of Planning and Research.

Roberts, Jean
1975 "Blood Pressure of Persons 18-74 Years, U.S.,

1971-1972," Vital and Health Statistics, Series 11, Number 150, Health Resources Administration, National Center for Health Statistics, Public Health Services, USDHEW, (HRA) 75-1032.

Vital Statistics
1973 Vital Statistics of the United States.

Vital Statistics
1975 "Characteristics of Females Ever Having a Pap Smear and Interval Since Last Pap Smear, United States, 1973," Monthly Vital Statistics Report, 24(7) (HRA) 76-1120.